

## The Seattle Area Young Men's Survey: Phase 2 results

**P**ublic Health - Seattle & King County recently completed Phase 2 of the Young Men's Survey (YMS 2). The purpose of this study was to gain a better understanding of the prevalence of HIV and hepatitis A and B, and sexual and drug-use risk behaviors among young men who have sex with men (MSM). YMS Phase 1 (15-22 year old MSM) was conducted between October 1997 and October 1998. Data collection for Phase 2 (22-29 year old MSM) occurred between December 1998 and February 2000. YMS was part of a multi-site Centers for Disease Control and Prevention study that was also conducted in the San Francisco Bay area, Los Angeles, Baltimore, Dallas, Miami, and New York City.

In the Seattle-King County area MSM account for 82% of persons living with AIDS and 75% of persons living with non-AIDS HIV infection. In recent years rates of infection with syphilis, gonorrhea, and chlamydia have increased among King County MSM indicating high levels of risky sexual behaviors among some MSM and there is great concern about the risk and spread of HIV and other sexually transmitted diseases in younger MSM. Most other surveys of young MSM have used convenience samples and their results cannot be generalized to broader populations of young MSM. Prior to YMS there was little local information available to guide prevention planning and evaluation efforts for young MSM. This report presents an overview of results from the Seattle Area Phase 2 YMS. Results from YMS Phase 1 were reported in earlier issues of this publication (4th Quarter 1998 and 2nd quarter 1999).

### Methods

The Young Men's Survey was an anonymous cross-sectional probability sampling survey that used multi-stage sampling methods to recruit young men at venues that were frequented by young MSM.<sup>1</sup> Sampling venues were identified through a community assess-

ment process and included street locations, bars, dance clubs, parks, beaches, and other locations or events that are popular with younger MSM. Venues that yielded 7 or more eligible persons in a 4-hour period were included in a sampling frame from which 12-14 venues were randomly chosen every month to construct a sampling calendar. During sampling events YMS interviewers approached potential participants and asked them about their age and county of residence to determine eligibility. Those between 23 and 29 years old who resided in King County were invited to participate. Participants could either complete the study at the time of recruitment (inside a specially equipped recreational vehicle parked nearby) or make an appointment at the YMS office on Capitol Hill.



After obtaining informed consent, study interviewers administered a standardized questionnaire that included questions on sociodemographic characteristics, sexual and drug use behaviors, and health care and prevention services history. Following the interview, pre-test counseling for HIV, hepatitis A and B, syphilis and other sexually transmitted diseases (STDs) was conducted and a blood sample was drawn. All participants received a monetary incentive and were offered free condoms and risk-reduction information. A results and post-test counseling appointment was also scheduled. Referrals for hepatitis A and B vaccinations and other health and social services were provided as needed. Stored sera were tested for antibodies to hepatitis C after all data collection was completed.

### Results

Between December 1998 and February 2000 the YMS team conducted 197 sampling events at 27 different community venues and intercepted 2,843 men of whom 934 (36%) were eligible for the study. A total of 506 (54%) agreed to participate, 92% (468) of whom were

MSM. After exclusion of data from 5 duplicate participants and one participant whose responses were judged to be unreliable, the final sample available for this analysis was 462 MSM.

**Sociodemographic characteristics (Table 1):**

The vast majority (85%) of the participants identified as gay. The median age of the respondents was between 25 and 26. Over three-quarters were White, 9% were Asian or Pacific Islander, 5% were Hispanic, 4% Black, and 1% American Indian or Alaska Native. The majority was employed full-time. Well over half had a college degree and another quarter had some college experience; 13% were currently in school. The median income was between \$20,000 and \$29,000. Most lived with friends or roommates (43%) or alone in a house or apartment (28%); 20% lived with a sex partner.

**Sexual behavior (Tables 2, 3 and 4):** Ninety-two percent reported ever having had anal sex with another man and 78% (361) reported anal sex with another man in the past 6 months (Table 2). While over half of the participants

reported ever having had sex with a female, only 8% reported sex with a female in the past 6 months. The median number of lifetime male sex partners was 20 and the median for the past 6 months was 2. In the past 6 months, 28% reported one male partner, 36% 2-4 male partners, and 29% 5 or more male partners. When asked about type of male sex partner in the past 6 months, 71% reported at least one new male sex partner, 75% reported at least one steady male sex partner (regular boy-friends or lovers with whom the participant had sex 3 or more times), 59% reported at least one non-steady male sex partner (pick-ups, one-night stands, or casual partners with whom the participant had sex less than 3 times), and 3% reported at least one exchange partner (partners with whom the participant had sex in exchange for things like money, food, or drugs).

The questionnaire asked about condom use during anal sex with other men in the past 6 months and about number and type of sex (anal or oral) partners in the past 6 months, but it did not ask about condom use with individual partners or with specific type of partners. Overall, 49% (224) of all participants

**Table 1. Sociodemographic characteristics of Seattle-King Co. YMS 2 participants**

| Sociodemographic characteristics | Total N=462 | Sociodemographic characteristics | Total N=462 |
|----------------------------------|-------------|----------------------------------|-------------|
| <b>Sexual identity</b>           |             | <b>Education</b>                 |             |
| Gay                              | 85.2        | High School/GED or less          | 11.5        |
| Bisexual                         | 8.3         | Technical/vocational             | 5.6         |
| Heterosexual                     | 2.8         | Some college                     | 27.1        |
| Don't know                       | 3.7         | College degree                   | 55.8        |
| <b>Age</b>                       |             | <b>Currently in school</b>       |             |
| 23-26 years                      | 58.4        | Yes                              | 13.0        |
| 27-29 years                      | 41.6        | <b>Income</b>                    |             |
| <b>Race/ethnicity</b>            |             | <\$15,000                        | 15.8        |
| White                            | 76.8        | \$15,000-29,999                  | 41.8        |
| Black                            | 3.7         | \$30,000-39,999                  | 23.2        |
| Hispanic/Latino                  | 5.4         | ≥\$40,000                        | 19.3        |
| American Indian/Alaska Native    | 0.9         | <b>Living status</b>             |             |
| Asian/Pacific Islander           | 9.3         | Alone in house/apartment         | 28.4        |
| Other                            | 3.9         | With parents/guardians/relatives | 7.6         |
| <b>Working status</b>            |             | With friends/roommates           | 42.9        |
| Full-time                        | 81.8        | With sex partner                 | 20.1        |
| Part-time/Occasionally           | 9.7         | Other                            | 1.1         |
| Unemployed                       | 8.4         |                                  |             |

reported not always using a condom during anal sex with men in the past 6 months (Table 2). Among the 361 respondents who reported anal sex with a man in the past 6 months, 20% never used a condom, 42% used a condom sometimes and 38% always used a condom (Table 3). Young men with two or more partners were more likely to have used a condom either sometimes (50%) or always (39%) compared to those with only one partner (20% and 34%, respectively). Participants who reported new partners or non-steady partners were also more likely to report condom use than those who did not report these types of partners.

Table 4 shows the different reasons for not always using a condom among those with only one partner in the past 6 months and those with two or more partners in the past 6 months. Ninety-two percent of those with one sex partner said that “being in a mutually-faithful relationship” was the reason they didn’t use a condom. Among those with 2 or more male sex partners in the past 6 months, 47% (77) also said the reason was that they were in a mutually-faithful relationship. When further questioned whether their unprotected sex was only with partners with whom they had a mutually-faithful relationship, 58 of 77 (75%) responded yes. Fifty-one of these 77 men reported 2-4 partners and 26 reported 5 or more partners in the past 6 months. Other

common reasons for not always using condoms among those with multiple partners included knowing that they were HIV-negative (56%), knowing that their partners were HIV-negative (47%), knowing that they both had the same HIV status (51%), or believing that their partners were at low risk (52%). Forty-seven percent said that they did not use a condom because “they were in the heat of the moment” and 27% said it was because they were high on drugs or alcohol. About one-third said that either they or their partners did not like using condoms.

**Drug and alcohol use (Table 5):** Virtually all respondents had used alcohol and 82% had used some form of drugs in their lifetime; 63% had used drugs in the past 6 months. Overall, 71% had been high or buzzed on alcohol (63%) or drugs (39%) during sex in the past 6 months. The most commonly used drug was marijuana (78%) followed by LSD or other hallucinogens (45%), ecstasy (41%), poppers (40%), cocaine or crack (36%), and crystal (32%). In the 6 months prior to the interview 52% had used marijuana, 24% ecstasy, 22% poppers, and 18% crystal. Five percent reported ever having injected drugs and 1% had injected in the past 6 months.

**Health history (Table 6):** Over two-thirds reported a regular source of health care, with health care maintenance organizations being

**Table 2. Sexual behaviors among Seattle-King Co. YMS 2 participants**

| Sexual behaviors               | Total<br>N=462 | Sexual behaviors                             | Total<br>N=462 |
|--------------------------------|----------------|--|----------------|
| <b>Anal sex with men</b>       |                | <b>Male sex partners last 6 mos.*</b>        |                |
| Ever                           | 92.4           | 0  | 7.8            |
| Past 6 months                  | 78.1           | 1  | 27.5           |
| <b>Sex with female</b>         |                | 2-4  | 36.1           |
| Ever                           | 57.8           | ≥5   | 28.6           |
| Last 6 months                  | 8.0            | <b>Type of male sex partner last 6 mos.*</b> |                |
| <b>Male sex partners ever*</b> |                | New  | 70.8           |
| 1-4                            | 11.9           | Steady                                       | 74.7           |
| 5-9                            | 15.2           | Non-steady                                   | 59.3           |
| 10-19                          | 21.6           | Exchange                                     | 2.6            |
| ≥20                            | 51.3           | <b>Condom use last 6 mos.**</b>              |                |
|                                |                | Not always                                   | 48.5           |

\* Includes partners with whom participant had anal or oral sex

\*\* Denominator includes all YMS MSM participants; only 78% reported anal sex with another man in the past 6 months

**Table 3. Condom use during anal sex in the past 6 months among Seattle-King Co. YMS participants**

| Sexual behaviors and partner characteristics | Any condom use in the past 6 months*<br>N=361 |                    |                        |                     |
|--|---|--------------------|------------------------|---------------------|
|  | Total<br>N (col %)                            | Never<br>N (row %) | Sometimes<br>N (row %) | Always<br>N (row %) |
| <b>Type of anal sex</b>                      |   |                    |                        |                     |
| Any anal sex                                 | 361 (78.1)                                    | 72 (19.9)          | 152 (42.1)             | 137 (38.0)          |
| Insertive anal sex                           | 320 (69.3)                                    | 63 (19.7)          | 145 (45.3)             | 112 (35.0)          |
| Receptive anal sex                           | 296 (64.1)                                    | 56 (19.0)          | 129 (43.9)             | 110 (37.2)          |
| <b>Number of partners</b>                    |   |                    |                        |                     |
| 1  | 93 (25.8)                                     | 42 (45.2)          | 19 (20.4)              | 32 (34.4)           |
| ≥2   | 268 (74.2)                                    | 30 (11.2)          | 133 (49.6)             | 105 (39.2)          |
| <b>New partner</b>                           |   |                    |                        |                     |
| 0  | 81 (22.4)                                     | 39 (48.2)          | 18 (22.2)              | 24 (29.6)           |
| 1  | 61 (16.9)                                     | 16 (26.3)          | 22 (36.1)              | 23 (37.7)           |
| ≥2   | 219 (60.7)                                    | 17 (7.8)           | 112 (51.1)             | 90 (41.1)           |
| <b>Non-steady partner</b>                    |   |                    |                        |                     |
| 0  | 127 (35.2)                                    | 46 (36.2)          | 35 (27.6)              | 46 (36.2)           |
| ≥1   | 234 (64.8)                                    | 26 (11.1)          | 117 (50.0)             | 91 (38.9)           |
| <b>Steady partner</b>                        |   |                    |                        |                     |
| 0 - 1  | 240 (66.5)                                    | 64 (26.7)          | 88 (36.7)              | 88 (36.7)           |
| ≥2   | 121 (33.5)                                    | 8 (6.6)            | 64 (52.9)              | 49 (40.5)           |

\* The questionnaire asked about number and type of sex partners and about condom use in the past 6 months, but it did not ask about condom use with specific or individual male partners. Thus condom use refers to any condom use in the 6 months prior to the interview.

**Table 4. Reasons why condoms were not always used during anal sex in the past 6 months among Seattle-King Co. YMS participants**

| Any reasons why condoms were not used during anal sex with male partners in the past 6 months | Didn't always use condoms during anal sex in the past 6 months<br>N=224 |                         |                                |
|---|---|-------------------------|--------------------------------|
|   | Total<br>N=224<br>%   | 1 partner*<br>N=61<br>% | ≥2 sex partners*<br>N=163<br>% |
| Didn't like using condoms   | 35.7  | 37.7                    | 35.0                           |
| Partner didn't like using condoms   | 33.5  | 34.4                    | 33.1                           |
| No condom was available**   | 16.1  | 6.6                     | 19.6                           |
| Didn't worry about using condoms**  | 46.9  | 60.7                    | 41.7                           |
| Didn't think he could get/transmit HIV  | 16.5  | 23.0                    | 14.1                           |
| Were in the heat of the moment**  | 38.4  | 16.4                    | 46.6                           |
| High or buzzed on drugs or alcohol**  | 21.0  | 4.9                     | 27.0                           |
| Knew he was HIV-negative**  | 62.1  | 78.7                    | 55.8                           |
| Knew partner was HIV-negative**   | 53.6  | 72.1                    | 46.6                           |
| Knew he and partner had same HIV status**   | 58.9  | 80.3                    | 50.9                           |
| Thought partner was at low risk for HIV   | 52.2  | 52.5                    | 52.2                           |
| Was in mutually faithful relationship**   | 59.4  | 91.8                    | 47.2                           |

\* The YMS participants included in this table had all had unprotected anal sex with another man in the past 6 months. However, questions regarding number of sex partners do not distinguish between oral and anal sex partners and it is possible that some of the sex partners were oral sex partners only.

\*\*Indicates a statistically significant difference at  $p < 0.05$  in reason for not using a condom between those with 1 partner versus those with 2+ partners

the most common source (29%) followed by a physician or group practice (non-HMO) (23%). One-quarter reported having been diagnosed with a sexually transmitted disease at least once in their life. One-third had completed the 3-shot hepatitis B (HBV) vaccination series and 21% had completed hepatitis A (HAV) vaccinations. Among those who had not been vaccinated the most common reasons was not having been informed about the vaccine by their health care provider (45% for HAV and 42% for HBV vaccinations), and lacking knowledge about the vaccine (22% for HAV and 37% for HBV vaccination). Seventeen percent said they were not vaccinated because they were at low risk for HAV and 18% said they were at low risk for HBV. Lack of time was cited as a

reason by 10% of those without HAV vaccination and 8% of those without HBV vaccination. Eight percent said that they had already had HAV or HBV infection. Only about 5% said that cost was an issue. More than 90% had previously been tested for HIV—17% within 3 months, 33% within 6 months, and 58% within a year.

**Prevalence of infections (Table 7):** A total of 22 (5%) participants were seropositive for HIV and 13 (59%) knew of their positive HIV status. Nineteen percent showed serological markers for prior infection with hepatitis B; less than 2% had chronic hepatitis B infection and 40% were seropositive for surface antibodies indicating immunity as a result of

**Table 5. Drug and alcohol use behaviors among Seattle-King Co. YMS 2 participants**

| Drug and alcohol use behaviors | Total<br>N=462<br>% | Drug and alcohol use behaviors | Total<br>N=462<br>% |
|--------------------------------|---------------------|--------------------------------|---------------------|
| <b>Alcohol use</b>             |                     | <b>Poppers or nitrites</b>     |                     |
| Ever                           | 98.5                | Ever                           | 39.8                |
| Last 6 months                  | 94.8                | Last 6 months                  | 22.1                |
| High during sex last 6 months  | 62.9                | High during sex last 6 months  | 18.6                |
| <b>Any drug use</b>            |                     | <b>Crystal</b>                 |                     |
| Ever                           | 82.3                | Ever                           | 32.3                |
| Past 6 months                  | 63.4                | Last 6 months                  | 18.2                |
| High during sex last 6 months  | 39.0                | High during sex last 6 months  | 10.6                |
| <b>Marijuana/Hash</b>          |                     | <b>Uppers/Speed*</b>           |                     |
| Ever                           | 77.5                | Ever                           | 14.5                |
| Last 6 months                  | 51.9                | Last 6 months                  | 2.6                 |
| High during sex last 6 months  | 22.3                | High during sex last 6 months  | 0.6                 |
| <b>Ecstasy/XTC</b>             |                     | <b>Cocaine or crack</b>        |                     |
| Ever                           | 40.7                | Ever                           | 36.1                |
| Last 6 months                  | 23.8                | Last 6 months                  | 16.4                |
| High during sex last 6 months  | 11.9                | High during sex last 6 months  | 5.4                 |
| <b>LSD/Hallucinogens</b>       |                     | <b>Downers/Barbiturates</b>    |                     |
| Ever                           | 45.2                | Ever                           | 14.9                |
| Last 6 months                  | 13.2                | Last 6 months                  | 7.8                 |
| High during sex last 6 months  | 4.1                 | High during sex last 6 months  | 2.0                 |
| <b>Special K</b>               |                     | <b>Heroin</b>                  |                     |
| Ever                           | 15.6                | Ever                           | 4.8                 |
| Last 6 months                  | 6.5                 | Last 6 months                  | 0.9                 |
| High during sex last 6 months  | 2.4                 | High during sex last 6 months  | 0.6                 |
| <b>GHB</b>                     |                     | <b>Injected drugs</b>          |                     |
| Ever                           | 10.6                | Ever                           | 5.2                 |
| Last 6 months                  | 4.6                 | Last 6 months                  | 1.3                 |
| High during sex last 6 months  | 1.3                 |                                |                     |

\*Not including crystal or cocaine

**Table 6. Health history among Seattle-King Co. YMS 2 participants**

| Heath history                                  | Total<br>N=462<br>% | Heath history                  | Total<br>N=462<br>% |
|--|---------------------|--------------------------------|---------------------|
| <b>Source of regular health care (any)</b>     |                     | <b>Hepatitis B vaccination</b> |                     |
| Health Maintenance Organization (HMO)          | 28.6                | Yes - completed series         | 32.5                |
| Physician's office/non-HMO group practice      | 22.5                | Yes - did not complete series  | 6.9                 |
| Community health clinic                        | 5.8                 | <b>Hepatitis A vaccination</b> |                     |
| Hospital                                       | 4.3                 | Yes - completed series         | 21.0                |
| Other  | 6.9                 | Yes - did not complete series  | 6.9                 |
| No regular source of health care               | 31.8                | <b>Received HIV testing</b>    |                     |
| <b>Ever had a sexually transmitted disease</b> |                     | Ever                           | 91.1                |
| Yes  | 25.8                | In the last 6 months           | 33.2                |

**Table 7. Prevalence of sexually and parenterally transmitted infections among Seattle-King Co. YMS 2 participants**

| Serologies                                   | Total<br>N=462<br>% reactive |
|--|------------------------------|
| HIV (anti-HIV+)                              | 4.8                          |
| Syphilis                                     | 0.4                          |
| History of hepatitis B infection (anti-HBc+) | 18.5                         |
| Chronic hepatitis B infection (HBsAg+)       | 1.5                          |
| Hepatitis B immunity (anti-HBs+)*            | 40.0                         |
| Hepatitis A immunity (IgG+)*                 | 28.1                         |
| Hepatitis C (anti-HCV+)                      | 0.9                          |

\*Either as a result of natural infection or vaccination

past infection or vaccination. Twenty-eight percent were positive for hepatitis A antibodies due to prior infection or vaccination; 50% of these young men reported either a complete or a partial HAV vaccination series. Four (less than 1%) were seropositive for hepatitis C, 2 of whom reported a history of injection drug use. Only 2 participants tested positive for syphilis. Seventy percent of all participants returned for their test results.

### Comments

Results from this survey show that the majority of participants had multiple recent sex partners, many of whom were new sex partners. Because this survey did not ask about condom use with specific partners, we do not know whether participants with multiple recent partners, who reported not always using condoms, reserved their condom use for sex with casual partners. It was encouraging to find that a

higher proportion of men with multiple sex partners reported using condoms during anal sex "sometimes" or "always" than those with fewer partners. Interestingly, one of the more common reasons for not always using a condom among participants with 2 or more recent partners was "being in a mutually-faithful relationship." This response along with the high proportion of participants who reported several recent steady and non-steady partners suggest short-term, serially monogamous relationships were common. Because these relationships were generally short-lived, HIV status may not have been determined or even discussed, and these young men may be at higher risk for HIV and other STDs than they perceive.

The prevalence of alcohol and drug use was high. In comparison, the 1998 National Household Survey on Drug Abuse (NHSDA) conducted by the Substance Abuse and Mental Health Services Administration found that 50% of



young adults 21-29 years of age reported having used drugs at least once in their life and that 11% were current users (used in the last month). Almost three-quarters reported being high or buzzed on alcohol or drugs during sex in the past 6 months and this was also cited as a reason for unprotected sex among over a quarter of the participants with recent multiple partners.

The prevalence of HIV among these 23-29 year old men (5%) was over twice the prevalence found among the 15-22 year old men surveyed in Phase 1 (2%) indicating that HIV transmission continues to occur among MSM in their twenties. The difference in HBV (anti-HBc) prevalence was even more striking. Only 5% of Phase 1 participants had markers of prior HBV infection compared to 19% of Phase 2 participants. A minority of participants reported HAV and HBV vaccination indicating the ongoing need to promote vaccination by educating both young gay men as well as their health care providers.

As of this writing, data collection was still underway at the other YMS sites and results for comparisons were therefore not available.

In summary, our results demonstrate the continued need for effective education and prevention efforts among younger MSM in the Seattle-King County area focusing on 1) safer sex practices including perceived safety of brief serial monogamous relationships, 2) the risk contributed by drug and alcohol use, and 3) increasing HAV and HBV vaccination rates.

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<sup>1</sup>MacKellar D, Valleroy, Karon J, Lemp G, Janssen R. The Young Men's Survey: Methods for estimating HIV seroprevalence and risk factors among young men who have sex with men. **Public Health Rep** 1996;111:138-144.



***We would like to thank the YMS participants  
and the community for their contribution  
and support of this study.***